Sr No	SR Pg No	Description Of Work	Unit	No	L,m	B,m	D,m	Qty	Rate	Amount
	67/1 2.8.6	Supply of LED Streetlight luminaire with pressure die cast aluminium housing body for optimal thermal dissipation. Lamp compartment comprising of anti glare clear diffuser with Injection moulded polycarbonate material, delivering superior light output. Rated life Burning Hrs 50000 hr @ Lumen Maintenance of 70%, maximum light intensity should be between 60 degrees to 70 degrees. CCT > 5500K, IP 66 optical and electrical compartment & impact resistance of complete luminaire > IK08. Power Factor >0.9 with mains, Surge Protection- Min 5KV along with Over voltage/ Overload, short circuit/ miss-wiring protection. Compatible for pole mouting with outer dia of 40mm to 50mm. Universal Voltage driver to operate wide voltage range from 100V to 270V 50/60Hz application. Compliance to IS 10322/IEC 60598, LM 79 & LM 80 Adherence with RoHS. UL approved MCPCB. Top access street light with single screw to ensure ease of maintenance at the sight site location with minimized minimal tools. LED Light fixture with W System Power consumption. LED Efficiency>130lm/w, nominal CRI >75. Luminaire manufacturer should have in-house facility accredited by NABL/CPRI & any Government certified agency & Design & Development facility certified by ISO 9001:2008 . Housing with supplier word mark /name shall be Engraved / Embossing on the die cast housing/ Body part. Warranty of 2 Years against any manufacturing defect working under standard electrical conditions as mentioned above should be given by LED manufacturer & Cree/Nichia/ Lumileds/Osram make LED Source.LED Streetlight 150 Watts								
			Nos	1	242.00			242.00	12300.00	2976600.00
	79/1 4.1.2	Supplying and Fixing of. mm dia class A GI pipe bracket up to 2 Mtrs long bent at suitable angle and fixing to this bracket 1x40/2x40 watts fluorescent tube street light fitting of all capacities to GI or CI or rail or RCC pole / wall using suitable clamps, bolts, and nuts and wiring using suitable capacity wires.Using 32mm dia G.I.Pipe								
			Nos	1	100.00			100.00	835.00	83500.00
	73/4 1.2	Fabricating, supplying and erecting swaged tubular pole of height ...Mtr having three sections, and providing two coats of red oxide paint and finished with two coats of enamelled paint of approved quality and colour and M.S. base plate of suitable size welded at the bottom of the pole(as per IS) and 40mm dia GI / flexible PVC pipe of 1 mtr length fitted to the heavy gauge polycarbonate control box including 5way connector of size 167x125x82mm for 7.5M pole/200x160x98mm for remaining length of pole with front opening cover, with locking arrangements and suitable capacity MCB / DP switch, The pole shall be erected in cement concrete work (1:2:4) including excavation and refilling of planting depth of the pole to the ground level and the coping CC shall be up to 0.6M above ground level as per IS 2713 - 7.Erection of heavy duty pole on Footpath / median 9Mt (5Mt Hb,165.1mm dia 4.85mm thick x2M Hm, 139.7mm dia 4.50mm thick x 2M Ht,114.3mm dia 3.65mm thick) as per IS 410 SP 32								9Mtr. 13200/- 10Mtr 16720/- 13200.00
			Nos	1	21.00			21.00	16720.00	351120.00
	79/1 4.4.1	Supplying and fixing telescopic M.S. bracket fabricated by using 0.5m length 4" dia telescopic M. S. pipe, with 2" dia 1.5m long M. S. bracket and are welded with suitable angle, using 6mm thick M. S. sheet, grip bolts & nuts, as required, suitable for 9 to 12 Mtrs. M. S. tubular pole, with necessary two coats of painting, with all other accessories.Single bracket 1.5 Mtr. Length								
			Nos	1	4.00			4.00	1200.00	4800.00
	79/1 4.4.3	Supplying and fixing telescopic M.S. bracket fabricated by using 0.5m length 4" dia telescopic M. S. pipe, with 2" dia 1.5m long M. S. bracket and are welded with suitable angle, using 6mm thick M. S. sheet, grip bolts & nuts, as required, suitable for 9 to 12 Mtrs. M. S. tubular pole, with necessary two coats of painting, with all other accessories.Double bracket 2x1.5 Mtr. Length								
			Nos	1	17.00			17.00	1962.00	33354.00
	40/5 4.5	Supplying of 1.1 KV LT UG cable XLPE or Heat resistant PVC insulated, PVC extruded Inner sheath armoured UG LT cable as per IS-1554 (Part-1) or IS-7098 Part-1, Armouring strip thickness in average +5% and resistivity 14 Ohms/Kms (Max) as per IS-3975 3.5 core 25 sqmm								
			Mtrs	1	4000.00			4000.00	180.00	720000.00
	40/5 4.5	Supplying of 1.1 KV LT UG cable XLPE or Heat resistant PVC insulated, PVC extruded Inner sheath armoured UG LT cable as per IS-1554 (Part-1) or IS-7098 Part-1, Armouring strip thickness in average +5% and resistivity 14 Ohms/Kms (Max) as per IS-3975 3.5 core 35 sqmm								
			Mtrs	1	500.00			500.00	225.00	112500.00

SR No.	Description Of Work	Unit	No	L,m	B,m	D,m	Qty	Rate	Amount
47/6.5.2	Labour charges for laying of 1.1 KV class UG cable in existing trench GI pipe / stoneware pipe / on wall / on pole as required In existing trench/duct. 25 sqmm to 75 sqmm								
		Mtrs	1	4500.00			4500.00	15.50	69750.00
66/6.6.1	Digging of trench of 0.6m deep x 0.50 mtr wide refilling the trench to the required ground level and consolidating etc.,complete.(As per Civil SR KSRB I-2, P-7)In soil (ordinary)								
		Mtrs	1	2800.00			2800.00	76.00	212800.00
62.5.2	Supplying and drawing Flexible Multicore Cable manufactured with electrolytic grade flexible copper with low conductor confirming to IS:8130-1984 and (Virgin) PVC insulation sheathed suitable for working voltage upto 1100Volts as per IS-694:1990 3C X 1.5Sq.mm								
		Mtrs	1	1750.00			1750.00	55.00	96250.00
40/6.9.1	Supplying and fixing of class A (medium duty) GI pipe of wall thickness not less than .25mm on pole/wall/drain crossing with necessary clamping arrangements for UG cable of 1.1 KV.40mm								
		Mtrs	6	10.00			60.00	335.00	20100.00
42/6.10.4	Supplying and fixing L.T. cast Iron pot heads suitable for 1.1 KV class UG cable filled with necessary bitumen/insulating compound complete with terminals, clamps, bolts, nuts and washers etc.35Sqmm								
		Nos	6	2.00			12.00	350.00	4200.00
43/6.10.7	Supplying tinned copper lugs and crimping and wiring to terminal point for wire of the following sizes.25 sqmm Long Barrel								
		Nos	8	83.00			664.00	20.00	13280.00
40/6.2	Supplying fixing and wiring earth electrode for grounding of lifts, transformers, DG sets etc. using 40mm dia 2.9mm thick 2.5 mtr long GI pipe with GI funnel with mesh and suitable size reducer fixed on the top of the earth electrode.The funnel should be enclosed in a CC chamber of 400x400x400mm with a cast iron cover. The earth electrode shall have staggered holes of 12mm dia and the electrode should be covered 150mm all-round with alternate layers of salt and charcoal from the bottom of the CC chamber. The connection from the electrode is to be established through GI strip using GI bolts and nuts.								
		Nos	6	1.00			6.00	4150.00	24900.00
30/5.47.1	Supplying and fixing angle iron frame work fabricated out of M.S. angle iron.. and M.S. flat ... with bolts, washers etc.,and painted with 2 coats of red oxide and then two coats of approved paint.40x40x6mm								
		Mtrs	6	8.00			48.00	255.00	12240.00
30/5.42.2	Fabricating supplying and mounting MS box made out SWG suitable for floor / wall mounting, fully weather proof with provision for better heat dissipation, provided with hinged front cover, equipped with tamper proof locking arrangements, with suitable size clamps with necessary cable entry pipe with gland and box should be finished with 7tanks treatment with powder coated paint and finally finished with approved colour etc., complete16SWG								
		Sqmm	6	35000.00			210000.00	0.35	73500.00
27/5.14.7	Supplying and fixing Moulded Case Circuit Breaker (MCCB)over the existing wood/panel board using necessary screws,bolts, nuts, necessary phase separators, handle and wiring complete. Protection of Overload and Short circuit with thermal Magnetic/Micro processor release and Earth Fault as per IS-13947. (Icu = Ics)100Amps 25kA. FOUR POLE								
		Nos	6	1.00			6.00	6400.00	38400.00
73/1.4.5	Fixing halogen/metal halide / SVL / IL / LED floodlight fitting over existing pole / wall ceiling including clamps, bolts, nuts and wiring using suitable capacity wires.								
		Nos	1	342.00			342.00	175.00	59850.00
40/6.10.6	Supplying and running of GI/Copper strips for grounding connections, using necessary fixing materials as required.25x3mm Copper strip								
		Mtrs	6	5.00			30.00	505.00	15150.00

SR No.	Description Of Work	Unit	No	L,m	B,m	D,m	Qty	Rate	Amount
	Supplying & fixing of retrofit type - LED bulb.....W with OPAL acrylic diffuser comprising of LED source with CCT 6500 degree K, CRI> 70%. efficacy >80 lumen per watt,life> 25000 burning hours and Compliance to IS 10322/IEC 60598, LM 79 & LM 80. The LED are driven by HF electronic driver integrated in the system, with PF > 0.95, power loss should < 5% of lamp wattage., short circuit & open circuit protection to be integrated in the circuit, THD less than 20%,Life as per LM 79. The operating input voltage should be between 130 to 275 volts. BIS Approved and Tested by ABL/CPRI accredited laboratory with 2 years Warranty against any manufacturing defect working under standard electrical condition 18W, 6500K								
		Nos	1.00	83.00			83.00	255.00	21165.00
25/5.7.3	Supplying & fixing of Porcelain fuse channel with cut out on existing wooden/panel using necessary nuts, bolts and washers.63Amps								
		Nos	6	3.00			18.00	227.00	4086.00
67/1 5.13	Supplying and fixing of Spiral Earth Electrodes as per standard technical specification as per ESCOM.								
		Each	1.00	83.00			83.00	490.60	40719.80
2042/ 2.01	Erection of steel supports 9.0 to 10.00 mtr long such as 22.68 kg (50 lbs) Rail, 27.22 kg (60 Lbs) Rail I Beam of sizes 200x100mm, 175x90 mm, 125x100 mm. Fabricates poles tubular poles in pits of 1.8 mtr Depth, Aligning, Refilling with soil and ramming as approved drawing (Releasing of LED Lights=90% of erction Charges Rs334x90%=300.6)								
		Each	1.00	100.00			100.00	300.60	30060.00
73/14 5	Fixing halogen/metal halide / SVL / IL / LED floodlight fitting over existing pole / wall ceiling including clamps, bolts, nuts and wiring using suitable capacity wires. (Releasing of LED Lights=90% of erction Charges Rs 175x90%=157.50)								
		Each	1.00	100.00			100.00	157.00	15700.00
Pwd Sr	Hiring of 35 tons capacity Crane for releasing and refixing of High Mast SR 2018-19 SL.No - 27 P.No - LT								
		Hrs	1.00	100.00			100.00	548.00	54800.00
	Total Rs								**8970973.98**
AR	Remotely control and and monitorable smart street light system by using web or mobile application .smart control system has hardware ruggedness over field issues like line cross, line short, lighting and any other irregularities in voltage. It has some features like 1.Remote lighting management.2.Precise lighting turnoff.3.Load ballancing.4.Load power regulation.5.Status tracking. It works on the basis of some of these features 1) Main Control Unit (Mother board) : Handles controlling , data handling and other communication process. 2) Communication unit: GSM/GPRS quad bandwith RS232 interface wireless communication unit 3) Gate Driver Unit: Firing angle controllable board for driving the thyristor 4) Switching Thyristor: SCR 110 AMPS dual thyristor modules for switching 5) Embedded Firmware: Firmware to control , handle , process the data and communicate it wirelessly.6) Metal Enclosure : IP66 weather prof metal enclosure.7) Transformers: Customized step down transformers for various purposes.8) Wiring and other device assembly components.								
		Nos	6	1.00			6.00	68780.00	412680.00

SR No.	Description Of Work	Unit	No	L,m	B,m	D,m	Qty	Rate	Amount
AR	Remotely control and and monitorable smart street light system by using web or mobile application .smart control system has hardware ruggedness over field issues like line cross, line short, lighting and any other irregularities in voltage. It has some features like 1.Remote lighting management.2.Precise lighting turnoff.3.Load ballancing.4.Load power regulation.5.Status tracking. It works on the basis of some of these features 1) Main Control Unit (Mother board) : Handles controlling , data handling and other communication process. 2) Communication unit: GSM/GPRS quad bandwith RS232 interface wireless communication unit 3) Gate Driver Unit: Firing angle controllable board for driving the thyristor 4) Switching Thyristor: SCR 110 AMPS dual thyristor modules for switching 5) Embedded Firmware: Firmware to control , handle , process the data and communicate it wirelessly.6) Metal Enclosure : IP66 weather prof metal enclosure.7) Transformers: Customized step down transformers for various purposes.8) Wiring and other device assembly components.								
		Nos	1	100.00			100.00	29800.00	2980000.00
AR	Fabricating, Supplying and errection of decorative bent type Tuskar Conical Street light pole with hot dip Galvanized with BSEN 10025 grade S 355 JO Steel plate for shaft, IS 2062 for base plate with door opening arrangements, including suitable boards, Bakelite sheet for MCBs as per IS Specifications.suitable to with stand the wind speed. The total height of the pole 9 mtrs. The pole should have 2 nos of pole esthetically bent either side. The dimensions of the pole bottom 178 mm,at 9 mtrs height 70 mm 3mm thick and one number of 3 mtr height and 139.7 mm dia perforated pole having colour changing LED Fixture, inside as suitable to the Drawing and picture. The base plate size of 350mm x 350mm x 18 mm for poles and a common baseplate of 900x320x20 mm and the pole shall be galvanized with not less than 65 micron etc and finally finished with paint as required with two different colour. (With out foundation). As per the enclosed Drawing ,pictures and IS standards compleet set includes templat & 6 nos 24 mm x750mm anchor bolts.								
		Nos	1	83.00			83.00	116625.00	9679875.00
BESC DM SR 18-19/3.3.2	Laying of UG Cables by trenchless technology by adopting horizontal boring & Drawing of cable including preparation at site With HDPE Pipe i) Normal soil 5/6" bore size								
		Mtrs	1	150.00			150.00	848.00	127200.00
	Total Construction Cost								**22170728.98**
	Add GST 12%								1076516.87
	Tender premium 5%								1250000.00
	Miscellaneous & BESCOM Charges								4754.15
	Add 2% for DPR and PMC Charges								498000.00
	Grand Total Rs								**25000000.00**

CERTIFICATE :-

1. The place was inspected and the work is e
2. The provision made in the estimate are adequate and necessary and the work comes in the BBMP limit and is legitimate Charges on the BBMP funds.
3. The estimate is based on KPWD (Ele) S.R.2021-22 , Approved Rates, BESCOM SR 2018-19 & AP State 2019-

T.C.N. Reddy

Engineer (Elec)

Asst. Exe.Engineer (Elec)
Sub-Division No.

EXECUTIVE ENGINEER (ELEC)
YELAHANKA DIVISION
BRUHAT BANGALORE MAHANAGARA PALIKE

Technical Sanction
Accorded For .....
Head of A/C Rs. 250.00 lakhs
CER NO :15/03..... **Dt:**..21/05/2021

CE

19

SR	Description Of Work	Unit	No	L,m	B,m	D,m	Qty	Rate	Amount
AR	Remotely control and and monitorable smart street light system by using web or mobile application .smart control system has hardware ruggedness over field issues like line cross, line short, lighting and any other irregularities in voltage. It has some features like 1.Remote lighting management.2.Precise lighting turnoff.3.Load ballancing.4.Load power regulation.5.Status tracking. It works on the basis of some of these features 1) Main Control Unit (Mother board) : Handles controlling , data handling and other communication process. 2) Communication unit: GSM/GPRS quad bandwith RS232 interface wireless communication unit 3) Gate Driver Unit: Firing angle controllable board for driving the thyristor 4) Switching Thyristor: SCR 110 AMPS dual thyristor modules for switching 5) Embedded Firmware: Firmware to control , handle , process the data and communicate it wirelessly.6) Metal Enclosure : IP66 weather prof metal enclosure.7) Transformers: Customized step down transformers for various purposes.8) Wiring and other device assembly components.								
		Nos	1	100.00			100.00	29800.00	2980000.00
AR	Fabricating, Supplying and errection of decorative bent type Tuskar Conical Street light pole with hot dip Galvanized with BSEN 10025 grade S 355 JO Steel plate for shaft, IS 2062 for base plate with door opening arrangements, including suitable boards, Bakelite sheet for MCBs as per IS Specifications.suitable to with stand the wind speed. The total height of the pole 9 mtrs. The pole should have 2 nos of pole esthetically bent either side. The dimensions of the pole bottom 178 mm,at 9 mtrs height 70 mm 3mm thick and one number of 3 mtr height and 139.7 mm dia perforated pole having colour changing LED Fixture, inside as suitable to the Drawing and picture. The base plate size of 350mm x 350mm x 18 mm for poles and a common baseplate of 900x320x20 mm and the pole shall be galvanized with not less than 65 micron etc and finally finished with paint as required with two different colour. (With out foundation). As per the enclosed Drawing ,pictures and IS standards compleet set includes templat & 6 nos 24 mm x750mm anchor bolts.								
		Nos	1	83.00			83.00	116625.00	9679875.00
ESC OM R 18-913/ 9.02	Laying of UG Cables by trenchless technology by adopting horizontal boring & Drawing of cable including preparation at site With HDPE Pipe i) Normal soil 5/6" bore size								
		Mtrs	1	150.00			150.00	848.00	127200.00
	Total Construction Cost								**22170728.98**
	Add GST 12%								1076516.87
	Tender premium 5%								1250000.00
	Miscellaneous & BESCOM Charges								4754.15
	Add 2% for DPR and PMC Charges								498000.00
	Grand Total Rs								**25000000.00**

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. The provision made in the estimate are adequate and necessary and the work comes in the BBMP limit and is legitimate Charges on the BBMP funds.
. The estimate is based on KPWD (Ele) S.R.2021-22 , Approved Rates, BESCOM SR 2018-19 & AP State 2019-

Engineer (Elec)

Asst. Exe.Engineer (Elec)
Sub-Division No.

EXECUTIVE ENGINEER (ELEC)
YELAHANKA DIVISION
BRUHAT BANGALORE MAHANAGARA PALIKE

Technical Sanction
Accorded For .....
Head of A/C ..Rs. 250 Lakhs
CER NO :75/03 ..... **Dt:**..21/05/2021

Administrative Approval
Accorded For ..Rs. 250 Lakhs
Head of A/C .....P 2415
CER NO :.....119..... Dt:03/10/2021

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